Remarks/Arguments:

Claims 1-10 have been rejected. Claims 11-20 have now been cancelled, because they were withdrawn from consideration. Claims 21-24 are newly added.

Claim Objections:

As requested by the Examiner, claims 2, 4 and 10 have been amended to delete the term "substantially".

Section 103 Rejections:

Claims 1-10 have been rejected as being obvious in view of Siegmund and Orthuber. Applicants respectfully submit that these rejections are overcome for the reasons set forth below.

Claim 1 includes features which are not suggested by the cited references, namely:

- A **mega-boule** for use in fabricating microchannel plates (MCPs), **the mega-boule** comprising
- a cross-sectional surface including at least first, second and third areas, ...
- the **third area disposed interstitially between and surrounding the first and second areas**, ...

Claim 1 recites a mega-boule that includes several features. At page 11 of the specification, third paragraph, **the term "mega-boule" is defined**. As described therein, several hundred of cut bundles 16 are stacked to form individual larger stacks each having a predetermined cross-sectional area. Each larger stack of the predetermined cross-sectional area contains bundles that are referred to as a mini-boule. The stacking continues by stacking non-etchable glass (referred to as support rods), so that the non-etchable glass surrounds each mini-boule. Multiple mini-boules are stacked together and multiple support rods are stacked between to surround each of the mini-boules. **The multiple mini-boules and the interstitially disposed support rods are referred to herein as a mega-boule**. FIG. 6, for example, shows **one mega-boule**.

Claim 1 further recites that the third area is **disposed interstitially between and surrounding the first and second areas**. The term "interstitially" is defined by Webster's New Collegiate Dictionary as relating to, or situated in the interstices, and having characteristics of a particular tissue--used **especially with fibrous tissue**. Stated differently, the third area includes non-etchable material (support rods) that is interstitially (**of a fibrous nature**) disposed between and surrounding the first and second areas.

Siegmund discloses a microchannel plate formed of large numbers of glass-clad fibers all bundled together. Siegmund discloses how to make a single microchannel plate. Each of his figures shows only a single microchannel plate (MCP). Such single microchannel plate (MCP) corresponds to the feature of a first area, where this first area is simply an MCP. **There is no disclosure of any mega-boule**.

The Examiner admits, at page 3 of the Office Action, that Siegmund fails to disclose a second area and a third area. Applicants further submit that Orthuber fails to disclose anything having to do with a mega-boule. Relating it to applicants' FIG. 6, Orthuber describes a mini-boule but, certainly, does **not** disclose anything about several mini-boules being stacked together with support rods interstitially disposed between these several mini-boules and together form a mega-boule.

Orthuber discloses an apparatus for rounding-off sharp circular edges at the ends of holes in a glass plate. At column 5, lines 19-25, Orthuber describes turntable 27, shown in FIG. 10, including calrod support 31. The calrod support is mounted on turntable 27. The calrod support carries graphite MCP holders 38. Individual MCPs are, respectively, disposed on each graphite MCP holder.

Orthuber discloses **nothing about a mega-boule**, as defined by applicants' specification. Moreover, Orthuber does **not** disclose a cross-sectional surface that includes first, second and third areas, where the third area is **disposed interstitially** between and surrounding the first and second areas. There is nothing in FIG. 10 of Orthuber that suggests a cross-sectional surface including a **third area having fibrous-tissue-like, non-etchable material** that is disposed interstitially there-between.

If the Examiner views the surface of calrod support 31 as being the cross-sectional surface of claim 1, then such cross-sectional surface does **not** include **interstitially** disposed non-etchable material.

The applicants further submit that the combination of Siegmund and Orthuber do **not** suggest **a mega-boule structure having several mini-boules (first and second areas) and a third area having interstitially disposed non-etchable material between and surrounding the first and second areas**. Applicants emphasize that neither reference discloses or suggests anything about a mega-boule structure, which is the subject matter of claim 1. Favorable reconsideration is respectfully requested for claim 1.

Claim 4 further limits claim 1 by reciting:

- the non-etchable material of the third area includes **a plurality of support rods** transversely oriented to the cross-sectional surface, and
- **an optical fiber of the plurality of optical fibers and a support rod of the plurality of support rods have a cross-sectional area similar to each other**.

The Examiner points to FIG. 6 of Siegmund and states that a tube of supporting glass is the same as a support rod. Applicants, however, respectfully submit that claim 4 further limits the support rod by reciting that **an optical fiber of the plurality of optical fibers and a support rod of the plurality of support rods have a cross-sectional area (substantially) similar to each other**. The support rod 66 of Siegmund is **not** "similar" or "substantially similar" to each optical fiber of an MCP. Favorable reconsideration is requested separately for claim 4.

Claim 8 has been amended to recite the following feature:

- the first and second areas each forms a **rectangular geometry**.

Neither Siegmund nor Orthuber disclose a first area or a second area that includes a rectangular geometry. Favorable reconsideration is requested separately for amended claim 8.

Newly added claim 21 further limits claim 1 by reciting the following features:

- **the third area includes a plurality of support rods** transversely oriented to the cross-sectional surface, and
- **the plurality of optical fibers in the first and second areas and the plurality of support rods in the third area intersect and pass through the cross-sectional surface**.

Applicants have now further limited claim 1 by defining that the third area includes a plurality of support rods that are transversely oriented to the cross-sectional surface. Furthermore, claim 21 recites that the support rods in the third area and the optical fibers in the first and second areas intersect the cross-sectional surface, and pass-through the cross-sectional surface. None of the recited references discloses a cross-sectional surface that intersects (and also passes through) with a plurality of support rods and a plurality of optical fibers.

Favorable consideration is requested for newly added claim 21. Dependent claims 2-3 and 5-10 depend from newly added claim 21 and are, therefore, not subject to rejection in view of the cited references for at least the same reasons set forth for newly added claim 21.

Newly added claims 22, 23 and 24 also depend from claim 21 and are, therefore, not subject to rejection in view of the cited references for at least the same reasons set forth for claim 21.

Furthermore, claim 22 recites the following feature:

- each support rod of the plurality of support rods includes an optical fiber.

In addition, claim 23 recites the following features:

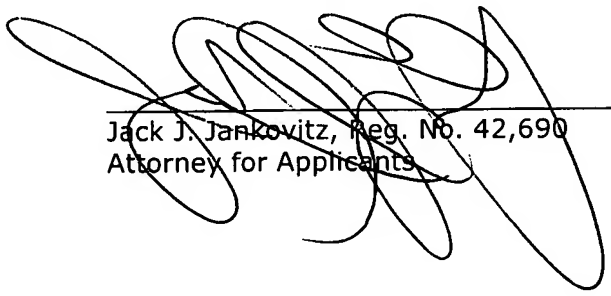
- each support rod of the plurality of support rods includes an optical fiber having a cladding formed of non-etchable material and a core formed of non-etchable material.

Basis for claims 22 and 23 may be found, for example, in the specification at page 12, lines 16-20. Favorable consideration is requested separately for claims 22 and 23.

Conclusion

Claims 1-10 and newly added claims 21-24 are in condition for allowance.

Respectfully submitted,



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